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**1822**



# DISSERTATION

UPON

BILIOUS

INFLAMMATORY FEVER.

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BY GEORGE W. PERKINSON.

Member of the Maryland and Philadelphia Medical Societies.

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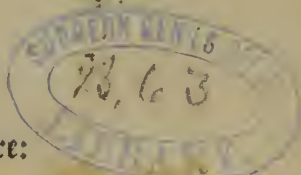
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## DISSERTATION

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### BILIOUS INFLAMMATORY FEVER.

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THE character of this disease appears to be nearly allied to the intermittent and yellow fever. It seems to occupy the middle ground between them, often alternating with the former, and sometimes assuming every feature of the latter. It also appears to proceed from the same causes, (namely,) marsh effluvia, or those exhalations which arise from vegetable matter in a state of putrefaction. These exhalations, in a mild or diffused state, will cause the intermittent, in a more concentrated form will give rise to the remittent, and in a still greater degree of concentration, produce the yellow fever.

The remittent occurs most frequently in those situations which are contiguous to marshes, ponds, or stagnant waters, and is generally more prevalent during the autumnal months, particularly when there are great vicissitudes in the weather, as long continued droughts, followed suddenly by heavy rains, producing inundations of low grounds, flats, or swampy lands; these, when acted upon by heat,

produce an abundant source of noxious effluvia.—“The more elevated situations, and those remote from such sources, generally escape this dreadful malady; at least, the force of the cause being in a great measure expended by a diffusion of the effluvia, the effects will be proportionably mild in their nature; except, when the atmosphere becomes universally surcharged with the miasma, emanating from those exuberant fountains of mischief and poison; under such occurrences, they unavoidably participate of the evil.”\*

“Bilious fever does not generally prevail to a great extent during the heat of the summer. This may be owing to the greatness of the heat dissipating and scattering the marsh effluvia, so as to enfeeble and render them apparently innocent.”† And why it should be so prevalent during the fall season is obvious. During the summer we are perpetually exposed to the influence of heat, and the debilitating effects of this agent upon the system, creates a predisposition or aptitude to receive impressions; vegetation, also, about this period commences a decay, and the constant evolution of effluvia which arise from them in a putrefactive state, greatly tend to increase that debility already existing, and produce disease.

It is now confirmed, by the united voices of many practitioners, that marsh effluvia is evolved in much greater quantities, when water in the swamps and low lands is nearly evaporated, leaving the vegetable matter and surface of the ground partially exposed to the rays of the summer’s sun. Doctor Franklin was of opinion, that a half cultivated country, was more sickly, than either a wilderness, or a country

\* Davidge’s Physical Sketches, p. 72.

† Physical Sketches, p. 65.

in the highest state of agricultural improvement. This is strongly exemplified by referring to the state of Virginia at this time. "The state of agriculture in the greater part of Virginia, is not farther advanced, than to an intermediate point between a natural wildness, and a most improved state of cultivation."\* There are large quantities of open land, which usually surround the dwellings of families on every side. These fields, since the farmers have, in a measure, abandoned that miserable mode of cultivating, and turned their attention to the enriching of the soil, afford an abundant increase of vegetable substances, and the poisonous influence of the exhalations which arise from them in a state of putrefaction, is not only greater in quantity, but also more noxious in quality. The country is also intersected by numerous small streams which generally take their rise from low swampy lands; these were formerly rendered innocuous by heavy growths of timber which surrounded and protected them from the evaporating power of the sun. The exhalations from these sources meeting no impediment in their passage, are wafted in all directions by the winds spreading their deadly influence for several miles.

We are informed by the oldest inhabitants of the state, that fifty years ago, the intermittent fever was very prevalent, but appeared in so mild a form, that it scarcely gave the people any annoyance at all, and that they were seldom compelled to leave their ordinary occupations on that account. But at this time, the intermittent and remittent fevers prevail to as great extent, and appear in as aggravated a form as in any country whatever; and we some-

\* Finch's Dissertation, Vide, Med. Recorder, page 78.



times meet with that king of terrors, the black vomit.

No part of Virginia from the Atlantic, to the Allegany mountains, is exempt from the ravages of bilious remitting fever, and it appears the nearer we approach tide water, the disease assumes a more violent character. Norfolk has several times been visited, by all the horrors of a most malignant yellow fever. Those counties in the eastern part of the state generally, suffer more from the most aggravated types of bilious fevers, than those farther west, which are free from the visitation of the tides.

During last summer, we are credibly informed, that a fever prevailed in Surry, and some of the neighbouring counties, characterised by symptoms of a peculiar and alarming nature. This disease, from the reports of the physicians, appeared of an inflammatory bilious and congestive type; promoted, perhaps, by the general appearance of the country being level and flat, subject, for the most part, to the overflowing of the tides. In the months of July, August and September, a fever in the southern part of Virginia prevailed with great violence, attended with a dreadful fatality, and spreading great alarm in other sections of the country. No cases of this nature came within the sphere of my observation; but from accounts which appeared in the papers, the disease was in every respect similar to that which prevailed in the eastern part of the state. It appears that the physicians, not only disagreed respecting the mode of treatment, but also its pathology, some labored under the conviction, that the Brunonian practice, was alone applicable to the disease, whilst others pursued an opposite course; some termed it a mild inflammatory bilious fever, whilst others gave it the name of *typhoia biliosa*.



Such discordance in practical views, clearly evinces an unsettled state of the science and a wide field yet open for improvement. Cases of typhus, are not often to be met with in Virginia, but bilious attacks are sometimes complicated with them, at least by improper management they may assume a low typhoid character, and this perhaps constituted the disease mentioned above. In some parts of Virginia, bilious fever during the winter season, is not uncommon, but it is generally more inflammatory in its nature, and is often complicated with pneumonia, constituting pneumonia biliosa. Cases of the fever occurring at this season, are generally accompanied with a cough, hoarseness, and every symptom of catarrh; but they generally disappear in a few days after the commencement of the attack.

It was owing to the frequent appearance, and formidable aspect, which this disease assumed for several preceding years, that induced me to trace out more fully its causes and investigate its nature; being convinced, that the plan of treatment generally adopted, is by no means adequate to accomplish a radical cure. The design of this treatise may also be rendered more excusable, as there is every reason to suppose, that the disease will assume a more malignant form hereafter, the causes which give rise to it, being more abundant and deleterious in their origin. The remarks respecting the symptoms and treatment of this fever, were principally made during its appearance in the two preceding autumns, as many cases which occurred, came under my own personal observation. I have endeavoured to confine them chiefly to the county of Amelia, although the type of the disease in those adjoining, appeared not to differ essentially, (the local situations being similar,) therefore, they may with

propriety, be applicable to all with little or no variation.

Although the lungs may be considered as the only channels through which this acral poison can be conveyed into the system, yet it appears that the stomach is the principle organ which manifest the seat of the morbid impression. This can only be explained by taking into consideration its extreme and delicate sensibility, and the great and important relations, which it bears with respect to other parts of the system. The intimate sympathetic connexion, which exist between the lungs and stomach, produces the affection in the latter by "debilitating its functions."

The liver, also, by the same train of association, becomes greatly disordered, there is evidently an increase of action, and the preternatural secretion of viciated bile, assumes different colours, and degrees of acrimony, in proportion to the violence of its action, or malignancy of the disease; thus in the common mild bilious attacks, the bile generally appears of a green or yellowish-green color, but in those of a more violent grade, it often appears as black as tar.

The exciting causes of this disease, are many and various; and it appears that when a person has been exposed for a sufficient length of time to the influence of miasma, that it requires a very little deviation from his accustomed habits, to rouse the disease, which had for a long time remained dormant, into action.

An exposure to cold or damp weather, has a tendency to produce it; also, much exposure to the effects of the sun, intemperance in either eating or drinking, exercise when carried to fatigue, will of-

ten give rise to it, whilst hunger will tend to produce the same effect; in short any thing, which directly or indirectly debilitates the nervous system. But patients are frequently found laboring under this fever, which could not be traced to any exciting cause whatever; it appears in this case, that the remote cause had continued to act so long upon the system, and acquired such a degree of strength, that it overbalanced those powers which constituted the healthy condition, producing disease, or, in other words, becoming the exciting cause itself.

We are told by an author,\* that persons of feeble constitutions, or of relaxed habits, are more liable to attacks of this fever. But I confess that this has not appeared to me, to be uniformly the case; but on the contrary, I have generally found the most strong and robust, to suffer equally with the former. The bilious fever neither pities helpless infancy, nor reverences the decrepitude of age; but it appears that its chief delight is to jostle, from the stage of life, the young and vigorous.

Such is the degree of mildness, in which it sometimes appears that the patient may continue for days, and even weeks, with evident symptoms of an approaching attack, before the fever will be completely formed. In some families the disease will appear among the different members, with a highly inflammatory and malignant character; whilst among others, it will assume the mildest type, often characterised by all the peculiarities of a regular quotidian. This, perhaps, may be owing to the predispositions, (either natural or acquired) of the patients; their habits, idiosyncrasies, and states of the

\* Dr. Robert Thomas, but his work appears to bear no marks of originality, consisting chiefly of "bloated and ill-digested compilations."

system, which always subject diseases (particularly fevers) more or less, to various modifications.

I now pass to the symptoms of this disease as they appeared in those cases which came under my own observation. The attack sometimes came on almost imperceptibly for some days previous to any serious indisposition; but in a few instances, the disease suddenly developed itself without any previous admonition. I saw many persons who pursued their ordinary occupations without manifesting much uneasiness; and although but little complaint was made, the fever was evidently progressing to that state which only required the exciting causes, to rouse into action. In these cases, the eyes were generally tinged with bile; the tongue usually exhibited a white or yellowish fur, particularly about the root of it; the thirst was increased; appetite impaired; restlessness during the night; of a morning they would experience a peculiar sensation of weakness at the stomach, which in some instances extended to nausea and vomiting, with a slight pain in the head. This was more sensibly felt when exercise was taken, or by directing the patient to shake his head quickly from side to side. A bitter taste in the mouth was often complained of, and vertigo with signs of plethora, were sometimes present. These symptoms, I presume, proceeded from the morbid condition of the stomach alone.

Persons thus circumstanced are said to be bilious, and this redundancy of bile in the system, will be poured out, so long as they remain exposed to the remote causes. Those, who have had frequent attacks of this fever, generally acquire this bilious habit, especially if they continue to reside, several years in succession, contiguous to those situations, which are calculated to furnish materials that keep up a



disordered action of the liver. Being so unfortunately circumstanced, they generally expect an attack during the approach of every summer, and I am induced to believe that the most effectual remedy is, a change of climate.

From this source there generally arises a numerous train of other diseases, such as the various forms of dropsy, disorders of the liver, enlargement of the spleen, &c. These also often succeed cases, that are imperfectly cured; and the frequent occurrence of that distressing disease, termed *diarrhoea-biliosa*, is generally owing to the latter circumstance.

Preceding an attack of the fever the patient complained of languor, heaviness, listlessness, and anxiety, frequent sighing and yawning, with an irresistible propensity to stretch out his limbs, alternate fits of heat and cold, frequent flushings of the face, and generally a dullness and lethargy in the deportment of the individual. These symptoms were of a longer or shorter duration, in proportion to the violence of the attack, or degree of inflammatory action. In mild cases, they usually continued for several hours, before the fever proceeded to what I shall denominate the second stage. Severe pain in the head and back, was then experienced, great heat diffused over the surface of the body, with a difficulty of respiration; to these were added a white furred tongue, full strong pulse, with a great dejection of spirits, the eyes and sometimes the skin were tinged yellow; nausea and vomiting of bilious matter ensued, with a sensation of pain and heat, at the pit of the stomach. If the inflammatory symptoms appeared very high, the remissions were scarcely perceptible, and the fever assumed more of the nature of a continued form; but when there appear-

ed a less degree of reaction, the paroxisms were not so obscure, and the remissions clearly marked. This demanded some attention, as a different treatment was essentially necessary.

When the fever appeared of this type, I considered it mild in its nature; the high arterial excitement denoting the inflammatory diathesis. Here the course of treatment was obviously pointed out by the symptoms. But it sometimes appeared of a greatly aggravated form; the face was highly flushed, heat of the body intense, thirst excessive, tongue covered with a dark or brown fur, respiration extremely quick and laborious, the pulse which in the commencement was strong and full, now appeared small and tremulous, with delirium.

Such was the ordinary character of this disease, but under different circumstances of situation and constitution of the patient it assumed different appearances, sometimes associated with the malignant diathesis, or combined with symptoms of a nervous tendency.

In the treatment of a disease, which assumes such a variety of forms, there must necessarily be attached to it, a difference of treatment; for sometimes it appeared of highly inflammatory aspect, requiring active depletion by the lancet and evacuations from the stomach and intestines; and again, it appeared of such a low type, that these remedies could not be carried to a great extent, without producing dangerous debility. As it generally appears in the section of Virginia, in which I reside, I have considered it as a fever of increased action, requiring copious depletion, and a strict adherence to the antiphlogistic plan; with this view, I will now proceed to consider its treatment.

The principle indication, in this fever is, to induce

an intermission as soon as possible, and with this intention venesection should be one of the first remedies resorted to. But this is more particularly demanded, if the patient is of a plethoric constitution, with a hard and quick pulse, severe pain in the head, a flushed countenance, red watery eyes, (indicative of a strong inflammatory disposition) that it should be repeated until there is produced a sensible alteration in the pulse. The advantages of this remedy are very conspicuous, it not only facilitates the operation of other remedies, but also effectually relieves the difficulty of respiration so distressing to the patient, and prevents that furious delirium, which arises during the height of the paroxisms.

After bloodletting an emetic should be administered. It is asserted by some, that emetics are only applicable in the forming state of this fever. But I saw the greatest advantage derived from them in several cases, after the disease had continued for several days. There is only a greater degree of caution requisite in exhibiting the article at this period. It often puts an end to the disease, (when properly administered) after the fever has completely developed itself, by interrupting and removing the morbid impression of the stomach. But circumstances often occur at this period, which prohibit its use altogether. The impropriety of its administration when general plethora exist, is obvious; also, when there are strong local determinations, particularly to the head, signs of congestion and irregular action, which are very common in this fever, great languor or faintness, too great a degree of irritability of the stomach, &c. But with a view to cleanse the stomach of bile, an emetick should be administered; provided none of the above men-



tioned symptoms are present. For this purpose the emetick tarter should be preferred to all others. Ipecacuanha is sometimes given by practitioners, but the former is much more certain, quick, and powerful in its operation. There is scarcely any medicine which exerts such a salutary influence over the system in this disease, as the one in question. It not only relaxes the surface, by virtue of the impression which it makes upon the stomach, but often operates as a purgative; combining the salutary tendency of the former, with the necessary indication of the latter. Its dose is from three to five grains; but it should always be given in divided quantities, for fear in operating too powerfully, it might induce great debility or relaxation in the system. Some practitioners are in the habit of combining with the emetick some one of the neutral salts. I do not know that this combination possesses any advantages, except by obviating costiveness, which sometimes occur. It is well known, that medicines of this class, do not operate well, in expelling either bilious, or fecal matter, their action is more nearly allied to the gentle aperients. In several cases, where I had an opportunity of witnessing their effects, I could find but little bilious or excrementitious matter. It is absolutely necessary, in order to obtain a speedy solution of this fever, to adopt prompt and vigorous measures; and those remedies are calculated only, to accomplish this, which act chiefly upon the score of depletion. None, therefore, ought to be administered with this intention which does not evacuate the intestines of their bilious accumulations. I have known many cases of intermittent fever cured by this combination of emetick tarter and salts; and it is sometimes equally effectual in mild bilious remit-

ting fever. Hence, the mistaken policy of the inhuman practitioner operates as a signal benefit to the patient. The emetick, by producing a general relaxation, greatly promotes the operation of the salts, at the same time, by freeing the stomach of its irritating contents, relieves the head of many uneasy sensations. The fever cannot assume the continued form, the effects having ceased so soon as the cause was removed.

There is scarcely any disease which require so extensive a use of purgative medicines as bilious inflammatory fever. In many cases purging and venesection constitute almost our sole reliance. For it is impossible to obtain a solution of the fever until the whole of the viciated bilious matter is removed from the intestines, and this sometimes accumulates in an immense quantity, requiring many successive doses to remove it. There is no medicine which possesses this power in so eminent a degree as the submuriate of mercury or calomel. Notwithstanding the prejudice which, in a popular view, have so long existed against this valuable article; encouraged, perhaps, by those who either through sordid or interested motives, have endeavoured to detatch from it its real value and utility; its efficacy is well established; and people are only deterred from a more extensive use of it, because a greater degree of caution is necessary to be observed in its exhibition, than most other articles. Of this I shall speak more hereafter.

Calomel, when given alone, is usually dull and slow in its operation, but combined with some other article, such as jalap, (which I have generally found to answer this intention very well) the effects are more speedy, and the discharges more copious. In this fever we are not to be directed by the quantity

of medicine given, but the effects produced. Diseases which are violent in their nature require energetic measures to subduc them. The usual doses of these articles will generally be found wholly inefficient; and although they may serve to check its violence, yet it will be more apt to assume a continued form; perhaps confining the patient for weeks, when by a judicious management it might have been cured in a few days. For an adult not less than 15 or 20 grains of each, ought to be prescribed for a dose, and after a sufficient elapse of time, it is ascertained that the desired effect is not produced, an ounce of glauher salts or castor oil should be administered. I usually found this amply sufficient in producing copious discharges of bile; sometimes yellow, or an intermixture of yellow and green, often dark, acrid, hot, violently agitated, and extremely offensive. Purging is not the only benefit derived from this combination of jalap and calomel. The former by its peculiar nauseating taste, often operates as an emetic; producing copious discharges of bile from the stomach. This I witnessed in several cases, where it was deemed improper to produce emesis, the jalap unexpectedly fulfilled that intention.

From great debility sometimes occurring early in this disease, some have been induced to decry such an extensive use of purgatives, imputing it solely to an indispensable part of the treatment. But this is an idea founded upon a most palpable mistake, and attended with much mischief. If correct views were entertained of the subject, they would find that it was not caused by the purgatives, but great irritation, and consequently fever, kept up by the very means which they were intended to remove. I have seen but few cases of this fever, where much

prostration of strength, appeared at the commencement of the attack; but I have often witnessed very great debility in protracted cases, and this was owing either to an irregular plan, or want of energy, in treating the disease in its early stage. When this occurs, we find the intestines loaded with an immense quantity of bilious matter, which must be carried away, although attended with the greatest hazard; for at this period of the disease, the powers of life are too much exhausted to bear much depletion. Now, if the purgatives had been previously administered to a sufficient extent, this would not have occurred. In the fall of 1820, I saw a case of this fever protracted to the 15th day, by a neglect of this nature, and notwithstanding the patient was reduced to almost the lowest state of debility, (the disease evidently partaking of a typhoid character) the pulse appeared small, but hard, the tongue was dry in the centre, and of a dark greyish color. Bloodletting in this case, would have been attended with fatal consequences, and purging, although clearly indicated, with eminent danger. Yet, by a judicious use of stimulants and gentle aperient medicines, the patient finally recovered.

I consider purging, useful in a two-fold view, 1st. by carrying off the superfluous bile, which is evidently secreted in a preternatural quantity; and 2ndly, by reducing the inflammatory diathesis, which is always present during the early stage of the disorder; so it necessarily forms an essential and important part of the treatment.

Sometimes by a liberal use of the calomel, a slight ptyalism is produced, but this is always to be regarded as a favourable step towards a recovery. For so long as the viciated secretion of the liver continues, irritation in the stomach and intestines



will be kept up, and consequently febrile action. Emeticks and cathartics, may relieve some of the most prominent symptoms for a short time, and in many instances effect a cure, but they cannot (properly speaking) change this disordered condition of the liver. Mercury, by exerting a specific influence upon that organ, fulfils this intention very effectually, interrupting the diseased, and substituting a healthy action in its place. So soon as the mercurial action is established, the bilious symptoms will generally disappear, and an intermission of the fever ensue. I witnessed several violent cases, from which the recovery was evidently owing to a salivation. I consider a detail of them unnecessary, as the propriety of the cause is obvious to every person of discernment.

Mild attacks of this fever can generally be cured by the usual depleting measures, but violent cases require the use of mercury to a great extent. Let it be remembered, however, that it is not to be employed with a view of establishing its specific action, until the inflammatory symptoms are subdued; and for this purpose, venesection and other depleting measures should be adopted previous to its introduction in the system. Like an experienced general, we should always endeavour to secure the outposts, before we lay siege to the main body. Without this precaution, in striking at the root of the disease, we will either encounter great difficulties, or be unsuccessful. In those cases, where a very speedy salivation is required, the mercurial cathartics should still be administered in such doses as to operate freely upon the bowels, and continued until the whole of the bilious matter is evacuated, which may be ascertained by the feces assuming a natural color.

The irritation occasioned by the bile in the intestines, often extends to excruciating pains, similar to those which occur in cholic. These may be relieved by the application of a blister, but the best remedy is copious purging with calomel. Sometimes the eyes and skin in this fever assume a very yellow color, owing to the absorption of bile in the system. But this is not by any means to be considered a dangerous symptom, as some have imagined. If it occurs in an early stage of the disease, the employment of purgatives is clearly indicated; and if in the latter, it is evident that they have not been carried to a due extent. It will always disappear after the exhibition of a few doses of calomel.

In all cases an antiphlogistic regimen, should be rigidly adhered to; and all solid food whatever is totally inadmissible during the existence of the least degree of fever. For whatever tends to produce the smallest excitement in the system, will frustrate our intentions and retard the recovery. The ventilation of air; perfect rest and quietness; is of the greatest importance.

The violence of this disease can generally be subdued in a few days, provided the plan of treatment which has been recommended, be early adopted and carried to the proper extent; and it will be often found, that no other remedies will be imperiously demanded; but there are some affections of less concern, which often arise that require our attention.

Among these is nausea and vomiting, arising either from an accumulation of bile in the stomach, or a peculiar irritability of that organ. To relieve the first, an emetick will answer the intention very effectually, where the prostration of strength does not forbid its use. But such a degree of exhaustion

is often speedily induced by the frequent efforts which the patient makes to vomit, that we are compelled to resort to the use of cordials in order to support his strength, whilst we are at the same time carrying of the irritating matter from the intestines.

V. S. and opium are the best remedies which can be employed in order to calm irritability of the stomach. But the same objection may be urged against the former, which was applied to emetics, and the latter must be given in very minute doses with great caution. Circumstances sometimes occur in which they cannot be resorted to with safety; we are, therefore, compelled to use other remedies of which there are a variety. The common effervescing draught, or mint tea is very beneficial, also leaches applied to the stomach. But the best remedy on these occasions, and generally the most convenient, is lime-water and milk. A table spoonful of each should be administered every 15 or 20 minutes, according to circumstances. Fomentations over the region of the stomach is sometimes useful, also pediluvium or the warm bath. The above remedies should be tried in succession, and in general they will be found to succeed. In several very obstinate cases during last fall, I witnessed their good effects, although the vomiting had continued for hours with little intermission, to the great distress and annoyance of the patients. If these remedies should be ineffectual, and the vomiting violent, sinapisms must be applied to the soles of the feet and a blister over the region of the stomach. When we are compelled to resort to the use of opium, it is better to imploy it by injection. This is much the safest mode and sometimes equal-



ly efficacious, for we can easily prevent the ill consequences of an over dose.

A determination to the head in this fever often arises, and is generally indicated, by a flushed countenance, wild expression of the eyes, throbbing of the temples, with delirium. This may be relieved by the application of cups or leaches to the temples and forehead. By this means, eight or ten ounces of blood, may be drawn with very great advantage. But in addition to this, the head should be shaved, cloths wrung out of cold water should be constantly applied to it, or ice itself. These remedies will often remove delirium, when it has remained fixed for some time. Some practitioners, in these cases, are in the habit of applying a blister to the head; but this is only adding fuel to fire, and in no instance ought to be done.

Besides these affections, there is another which generally accompanies this fever from the commencement. I allude to intense heat diffused over the surface of the body. This is very distressing to the patient, producing that state of restlessness which totally precludes all sleep. Bleeding will sometimes speedily relieve it, but the best and most agreeable remedy, is the application of cold water and vinegar to the surface of the body, by means of a sponge. Nothing can be more agreeable to the feelings of the patient; for we sometimes find him labouring for many hours under the utmost distress, anxiety, and restlessness; in a few minutes become perfectly calm and tranquil, falling into a placid slumber, awakening perhaps with a gentle moisture upon the surface of the body. This application, if directed at the proper time never fails to lessen the febrile heat, reduce the temperature,

allay the irritation, and render the feelings of the patient much more comfortable.

If it is ascertained, after such powerful depletion from the stomach and intestines, that the fever shows a disposition to yield, with an abatement of inflammatory symptoms, it becomes necessary to assist nature in relaxing the surface by exciting perspiration. But to attempt this during the existence of a high arterial action, would be a useless consumption of time, and subjecting the patient to great danger. A forced sweat can never be productive of much benefit, and if preserved in will exhaust the patient more than the disease itself. Perspiration is a natural function, therefore if it be checked or suspended it ought to be restored. This must necessarily take place in all fevers, and it is by its restoration that nature frees herself from the oppression of many diseases. When, therefore, it flows somewhat spontaneously, or is excited by adventitious circumstances, it should be encouraged and promoted. By taking into view the following appearances, we cannot often err in this respect. If the tongue becomes clean and moist, if the febrile heat abates, the eyes assume their natural color, skin soft and moist, the pulse moderate and regular, we may resort to the use of diaphoretics, without any danger to the patient. The circulation may be solicited to the surface, by the preparations of antimony; the neutral mixture, or spiritus Mindereri. Their action may also be promoted, by the warm bath, or the camomile, mint, sage, and balm teas. Vesicating applications should also be made to the extremities; they act principally by the impression which they make upon the skin; restoring the healthy action by interrupting and removing the morbid condition. It is necessary,

in order to insure effectually the effects of the above remedies, to employ gentle aperients at the same time, such as rhubarb, magnesia, or any of the neutral salts, to prevent the accumulation of bile in the intestines, which will tend to keep up excitement.

So soon as an intermission of the fever takes place, the Peruvian bark ought to be given in such quantities, as the stomach can bear, combined either with wine or aromatic decoctions. If the bark in substance should be rejected, other forms, such as the tincture, infusion, or decoction of it, must be substituted. This fever sometimes, particularly in the latter stage, has a tendency, to assume the typhus condition. When this occurs, we should not withhold the use of the bark, although there may be some degree of fever present. If any doubt of its absence remains, it is better to prescribe those tonics, which add to their principle property, also a perspirable tendency, such as the serpentaria, quassia, centaury, &c. &c. During a state of convalescence, every thing, which has a tendency to bring on a fresh attack of fever, is carefully to be avoided. Gentle exercise (but not carried to fatigue) with a nourishing diet, will contribute much to the restoration of his strength. And in order to guard more effectually against a relapse, a use of the bark, should be continued for some time after a recovery. A change of situation, when practicable, is of great importance.

A frequent relapse of this fever, is not always owing to a continued exposure to the remote causes, but a disordered condition of the liver which often remains after a supposed recovery. It also, more frequently happens in those cases, where the system had not been affected by the action of mer-

cury. A neglect of this, together with the operation of other causes, will very often in a short time, bring on a fresh attack, more to be dreaded than the former. 'This increased action of the liver may be so gradual, and the effects upon the system apparently so unimportant, that the patient will not be susceptible of any serious indisposition for a long time; but it still increases until the whole system is either suddenly involved in disorder, or the foundation of another formidable disease is laid. I have witnessed many recoveries from attacks of this fever in a few days, by the remedies which have been recommended, (namely,) V. S. vomiting and purging, but after an elapse of a month or more, the fever would return with greater violence. This can only be prevented by a change of situation, or the use of mercury, carried to a salivation, during the recess of the fever. And I may say, the only mode in such cases where an entire cure can be accomplished. It also tends to prevent other diseases which often succeed as a consequence of frequent attacks.

Were a physician to confide exclusively to the above remedies, he would in many cases have to contend with other diseases more serious in their nature, and in endeavouring to smother the fire in one place, it would burst forth with greater violence in another, involving all in destruction.

I deem it unnecessary to repeat those affections, they have been already mentioned in another place, and also the means which will tend to prevent them. I am also fully aware of the prejudice which exist against one of the most important articles in medicine, and which has been emphatically styled the Sampson of the *Materia Medica*. Perhaps the great extent which I have recommended it to be



carried, may be condemned by a majority of those, who are either ignorant of its importance, or through prejudice do not attribute to it any superior virtues. But it is my most deliberate conviction founded upon attentive observation, that calomel is as necessary to be largely employed in bilious fever as the lancet in pneumonia vera. And if the latter is sometimes effectual in preventing the occurrence of phthisis from that disease; the former is equally so in preventing others of almost as intractable a nature. Nor does this recommendation rest solely upon the slender basis of my own experience; it is now fully corroborated by the testimony of many, who are amply qualified to judge of its efficacy.\*

In bilious fever, if the patient can be salivated, (subsequent to the observance of the precautionary steps which have been mentioned,) the disease will most infallibly yield, provided no organs important to the existence of life, have been too much injured by the violence of reaction. No person of feeling and discernment would attempt to salivate a patient, without previously reducing arterial excitement where it existed. Yet by a neglect of this, many, both in this disease, and acute hepatitis, have been precipitated to their graves. Hence, although it possesses powers so very efficacious, if used indiscreetly, it often proves highly dangerous. There is none which can be administered with more safety, provided a due degree of caution, from exposure, is observed. It is owing to this inattention, and not any deleterious quality which the medicine itself possesses, that popular clamor has been so long excited against it; therefore, it becomes the duty of the phy-

\* Among the warmest advocates I am happy to mention the names of those distinguished Professors Potter and Chapman, who will ever rank foremost upon the records of Medical science.

sician, strongly to inculcate the necessity of close confinement during a course of mercury; for an exposure to cold or damp weather, will not unfrequently induce a long series of complaints, from which the unhappy sufferer will gain no respite.

Perhaps there is no fever which require so little aid from the use of stimulants, as the one in question. I have seen many cases protracted to the third week, where the evacuations had not been sufficiently profuse. But a small degree of excitement was still kept up as was evinced by the pulse; although small, it appeared hard, and not easily compressed. If a slight degree of pressure was made by the finger, the artery would not yield, but would roll or slip aside, appearing like a tendinous chord. There is also another appearance of the pulse which I have often remarked in protracted cases, in which it appeared softer and quicker, but more full and compressible, imparting a sensation of a waving or undulating motion. In many cases when the patient is reduced to this condition, we perceive the first dawning of convalescence. But the patient labors under irritation, and consequently excitement throughout the whole course of the disease.

In this fever, if the patient fortunately survives the 12th or 15th day, he will generally recover. But when violent attacks are not early opposed by a prompt and vigorous treatment, it will often terminate fatal, between the 4th and 9th day.

In the commencement of the attack, the violent inflammatory action soon exhaust the excitability of the system, the pulse in a short time appears small and weak, the heat of the body is below the natural standard, there is great depression of strength, with low delirium. These cases are attended with great danger, for it is evident, that the brain is either

deeply implicated, or has already sustained an irreparable injury. We have to lament the loss of some of our most valuable members of society, who in this way fell victims to the fever, during last summer; one of whom as a practitioner of medicine would have been an honor to any country.

If the patient should be so fortunate, as to escape this cerebral affection, and congestion of no organs, which are essential to life, take place, the fever assumes a continued form, and should be treated as such, with this difference, that as the secretion of bile is preternatural, and consequently an accumulation of it is always going forward, a greater degree of indulgence in the use of purgative medicines is necessary. The fever will thus continue sometimes for weeks, without any material alteration, and that which often induces us to suspect an amelioration, is a desire being expressed for food. I have always considered this as a favorable symptom of a recovery; for it is evident that the stomach has begun to recover its tone, and in proportion as this organ resumes its functions, the fever will subside. But great caution is to be observed in selecting those articles of the mildest nature. Such is the degree of excitability, that the smallest quantity of solid food taken into the stomach, will often produce a degree of action, which the system could not well sustain. I have seen the pulse become quick, full and irregular in a few minutes after the patient was permitted to swallow a few mouthfulls of solid food; and in one case, it was necessary to resort to blood-letting, which greatly retarded the cure. It is evident that so long as this excitability of the system continues, all stimulating articles of food and drink will be improper. In many cases, after an intermission of the fever has taken place, there remains



an increased disposition to the formation of bile, and it accumulates in the primae viae until it first destroys the appetite, occasions nausea and vomiting, or a relapse of fever. When this occurs, the use of tonics will be improper, but a continuance in the use of laxative medicines has a tendency to prevent these effects, and if strictly attended to, would perhaps, obviate the disposition to relapse entirely.

It is evident so long as the fever assumes this inflammatory aspect, that no other plan of treatment than the one laid down, can succeed. But diseases are perpetually undergoing changes and modifications, which require a different plan of treatment, in order to meet the different indications. The remedies which are applicable to the disease, this autumn, may the succeeding prove wholly unavailing. Therefore, it becomes those who take upon themselves the awful responsibility of physicians, to possess accuracy of judgment and nice discrimination. Perhaps there is no disease in which the diagnostics are more plain than bilious inflammatory fever, and none which promises to yield more readily to the dominion of medicine, provided it is administered with a scientific hand. But the medical science has always, and perhaps will ever be doomed to suffer from the impositions of despicable ignorance, and the arrogated superiority of empiricism. How far this brief, but I hope not altogether unavailing attempt to alleviate the miseries of suffering humanity, may escape the hypercritical snarlings of supercilious empiricks, I am not able to determine. But I am favoured with a presentment that it will prove useful to those whose duty is to guard and protect the dependant.

I cannot dismiss this subject without recapitulating those steps which are to be pursued, conforma-

ble to the principle indication, which was mentioned in a former part of this discourse.

Bloodletting is necessary in order to moderate the violence of reaction, which cannot continue long without inducing eminent danger; besides relieving the laborious respiration, it facilitates the operation of other remedies and determines to the surface.

Emeticks are useful, not only by expelling the irritating, and I may say, extraneous contents of the stomach, but they make an impression there which operates upon the nervous system, as is evident, by the relief which the patient often immediately experiences from the most excruciating pains in the head and back. In other respects it operates as bloodletting.

Purging is eminently beneficial, by carrying off the viciated bilious secretions, and reducing inflammatory action. Although bloodletting lessens the action of the heart and arteries, yet we can never expect to reduce them to their natural state, without the assistance of copious purging. In this fever we might bleed daily for weeks, and without the employment of purgatives, the pulse would remain hard to the last moment of life. The cause is too obvious to require an explanation. In those desperate cases when we find that V. S. and purging have been carried to a great extent, and the patient is much debilitated with little or no abatement of the febrile symptoms, a salivation is the only anchor of hope. Mercury should be largely exhibited, both internally and externally. If the patient is closely confined to his chamber, and a free ventilation of air not admitted, he can be salivated in half the time, than when placed under opposite circumstances. By breathing a mercurial atmosphere, sometimes, in less than 24 hours, the

system is happily under the influence of this powerful medicine. This may be ascertained very often by the disgust which the patient expresses against all articles of food or drink. Cold water to some will be complained of as tasting extremely bitter, this depravity of taste will sometimes continue for several days before other symptoms of a mercurial action will present themselves. I repeat again, that it is essentially necessary, in order to prevent the evil consequences which ensue, from frequent attacks of this fever, to complete the cure, by establishing a mercurial action. It is sufficient in many cases that the mouth be only gently effected and by keeping this up for several days after the subsidence of the fever, the liver will resume its former healthy action.

The prophylacticks are a wearing of flannel next to the skin, keeping the bowels in a soluble state and avoiding all the exciting causes.

FINIS,

The author is sensible that there are some typographical, as well as other errors, in the preceding work, but he trusts they are few and unimportant; and that it is not necessary to notice them.

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